



Product Information

Chloroform

Product Number **C 2432**
Store at Room Temperature

Product Description

Molecular Formula: CHCl_3
Molecular Weight: 119.4
CAS Number: 67-66-3
Density: 1.484 g/ml (20 °C)¹
Boiling Point: 61 - 62 °C¹
Melting Point: -63.5 °C¹
Synonym: trichloromethane, methyldine trichloride¹

This product is designated as molecular biology grade and has been tested to be suitable for the extraction of nucleic acids.

Chloroform is a widely used organic solvent in biochemistry and molecular biology. Procedures have been described for the use of chloroform in λ plaques storage, for λ cDNA storage, the removal of mineral oil from PCR reaction samples, oligonucleotide purification, a hydroxyl radical footprinting protocol, a transcriptional run-on assay protocol, and an overlay assay for β -galactosidase activity. Chloroform has been used with phenol in such procedures as DNA recovery from polyacrylamide gels, ethidium bromide removal from DNA preparations, lysis protocols for plasmid DNA isolation, RNase removal, and purification of yeast DNA.² A protocol describes the use of chloroform in a high-performance thin-layer chromatography protocol for sphingomyelin analysis.³

A protocol has been described for the use of chloroform/methanol for the isolation of cardiolipids from *Geobacillus stearothermophilus* and their subsequent MS analysis.⁴ The isolation of the bacteriocin amylovorin L471 from *Lactobacillus amylovorus* DCE 471 in culture broth has been reported, using chloroform/methanol extraction and precipitation in the procedure.⁵ The use of chloroform/2-butanol for the extraction of steroid sulfates for analysis by nanoelectrospray ionization mass spectrometry has been reported.⁶

The analysis in chloroform of synthetic protein core mimetics has been described.⁷ The solubility of various noncovalent metallodendrimers containing hydrophobic dendrons in chloroform has been examined.⁸

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is miscible in alcohol, benzene, ether, and petroleum ether. The solubility in water has been reported at 0.005 ml/ml (v/v).¹

References

1. The Merck Index, 12th ed., Entry# 2193.
2. Molecular Cloning: A Laboratory Manual, 3rd ed., Sambrook, J. and Russell, D. W., CSHL Press (Cold Spring Harbor, NY: 2001), pp. 2.32-2.33, 2.36, 8.22, 10.27, 1.64, 17.12, 17.28, 18.28, 5.53, 1.74, 1.77, 1.34, 1.37, 1.42, 1.46, 1.57, 9.33, 4.68-4.69.
3. Ramstedt, B., et al., Analysis of natural and synthetic sphingomyelins using high-performance thin-layer chromatography. *Eur. J. Biochem.*, **266(3)**, 997-1002 (1999).
4. Beckedorf, A. I., et al., Mapping and sequencing of cardiolipins from *Geobacillus stearothermophilus* NRS 2004/3a by positive and negative ion nanoESI-QTOF-MS and MS/MS. *J. Mass. Spectrom.*, **37(10)**, 1086-1094 (2002).
5. Callewaert, R., et al., Characterization and production of amylovorin L471, a bacteriocin purified from *Lactobacillus amylovorus* DCE 471 by a novel three-step method. *Microbiology*, **145(Pt 9)**, 2559-2568 (1999).
6. Chatman, K., et al., Nanoelectrospray mass spectrometry and precursor ion monitoring for quantitative steroid analysis and attomole sensitivity. *Anal. Chem.*, **71(13)**, 2358-2363 (1999).

7. Turk, J. A., and Smithrud, D. B., Synthesis and physical properties of protein core mimetics. *J. Org. Chem.*, **66(25)**, 8328-8335 (2001).
8. van Manen, H. J., et al., Convergent synthesis of noncovalent metallo-dendrimers containing hydrophobic dendrons at the periphery. *J. Org. Chem.*, **66(13)**, 4643-4650 (2001).

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